

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims: Please amend the claims as follows

We claim:

Claim 1. (Currently Amended) An isolated nucleic acid molecule which is:

- a) a nucleic acid molecule comprising the polynucleotide sequence of SEQ ID NO: 1,
- b) a nucleic acid molecule comprising a polynucleotide sequence having at least 80% homology to the polynucleotide sequence of a),
- c) a nucleic acid molecule which, as a consequence of the genetic code, is degenerate to the polynucleotide sequence of a) or b), or
- d) a nucleic acid molecule which is an RNA equivalent of the nucleic acid molecule of a) or b), or is an RNA equivalent of a degenerate of said nucleic acid molecule of a) or b)

~~wherein each of the polynucleotides of (a) to (d) encodes a polypeptide having a behavior which is analogous to the AKAP188 polypeptide of SEQ ID NO: 2.~~

Claim 2. (Currently Amended) The nucleic acid molecule according to claim 1, which encodes a polypeptide ~~having~~ comprising the sequence set forth in SEQ ID NO: 2.

Claim 3. (Previously Presented) The nucleic acid molecule according to claim 1, wherein said molecule is a genomic DNA, a cDNA and/or an RNA.

Claim 4. (Previously Presented) A vector comprising a nucleic acid molecule according to Claim 1.

Claim 5. (Previously Presented) A host cell comprising the vector according to claim 4.

Claim 6. (Withdrawn) A polypeptide encoded by a nucleic acid molecule according to Claim 1.

Claim 7. (Withdrawn) A recognition molecule directed against a nucleic acid molecule according to Claim 1 or, a vector, or a host cell based thereon or a polypeptide encoded thereby.

Claim 8. (Withdrawn) The recognition molecule according to claim 7, wherein said molecule is an antibody, an antibody fragment and/or an antisense construct.

Claim 9. (Previously Presented) A pharmaceutical composition comprising a nucleic acid molecule according to Claim 1 and a pharmaceutically tolerable carrier.

Claim 10. (Previously Presented) A kit which comprises a nucleic acid molecule according Claim 1 and a pharmaceutically tolerable carrier.

Claim 11. (Withdrawn) A method for the detection of an AKAP-PKA interaction, comprising

- a) providing
 - (i) a first vector comprising a nucleic acid molecule according to Claim 1 and a first marker, and
 - (ii) a second vector comprising a second nucleic acid molecule which encodes a regulatory subunit of a protein kinase and a second marker,
- b) incorporating the first and second markers in a cell, thereby transfecting the cell, and
- c) performing a fluorescence resonance energy transfer (FRET) measurement, thereby detecting the AKAP-PKA interaction.

Claim 12. (Withdrawn) The method according to claim 11 comprising detecting an interaction between AKAP and RII α , RII β , RI α and/or RI β .

Claim 13. (Withdrawn) A method for the identification of an inhibitor of AKAP and/or a PKA comprising detecting interaction of AKAP and PKA according to the method of claim 11 in the absence or presence of the inhibitor to be investigated.

Claim 14. (Withdrawn) A method for the examination of membrane-permeability of a test molecule comprising producing a conjugate of the test molecule and a membrane-permeable AKAP-PKA inhibitor and detecting AKAP-PKA interaction according to the method of claim 11 in the absence or presence of said conjugate or said test molecule.

Claim 15. (Withdrawn) A method for the detection of an AKAP-PKA interaction or for the

identification of an inhibitor of AKAP and/or PKA and/or of a membrane-permeable peptide comprising employing a nucleic acid molecule according to Claim 1, a vector, or a host cell based thereon, a polypeptide encoded thereby, a recognition molecule corresponding thereto, a pharmaceutical composition based thereon, or a kit based thereon.

Claim 16. (Withdrawn) The nucleic acid molecule according to claim 1, wherein the polynucleotide sequence specified under b) has at least 90% homology to the polynucleotide sequence as specified under a).

Claim 17. (Withdrawn) The recognition molecule according to claim 8 which is an RNA interference molecule.

Claim 18. (Previously Presented) The nucleic acid molecule according to claim 1, which consists of the polynucleotide sequence set forth in SEQ ID NO: 1.

Claim 19. (Currently Amended) ~~[[A]]~~ The nucleic acid molecule according to claim 1, which is:
(a) a nucleic acid molecule comprising the polynucleotide sequence of SEQ ID NO: 1;
(b) a nucleic acid molecule which encodes a polypeptide ~~having~~ comprising the sequence of SEQ ID NO: 2;
(c) a nucleic acid molecule which consists of the polynucleotide sequence of SEQ ID NO: 1; or
(d) a nucleic acid molecule which encodes the polypeptide sequence of SEQ ID NO: 2.

Claim 20. (Currently Amended) The nucleic acid molecule according to claim 1, which encodes a polypeptide that binds to protein kinase A (PKA) regulatory subunit II ~~wherein said behavior analogous to AKAP188 comprises an ability of said encoded polypeptide to anchor protein kinase A (PKA) with Ca²⁺ channels or receptors when expressed in cells.~~